

LSI Docket No. 99-284

Remarks/Arguments

In the Final Office Action mailed on 27 February 2004, the Examiner withdrew the earlier stated objection to figure 5, withdrew the rejection of claims 1-7, 14 and 15 under 35 U.S.C. §112, second paragraph and withdrew certain of the earlier prior art based rejections but was silent as to others as follows:

Prior Rejection	Status
Claims 1, 2, 5-7 and 13 rejected under 35 U.S.C. §102(e) as anticipated by Nguyen et al. (United States Patent Application Number 2002/0004883)	Withdrawn
Claims 1, 2, 5-8 and 11-13 rejected under 35 U.S.C. §102(e) as anticipated by Ito et al. (United States Patent Number 6,408,359)	Withdrawn
Claims 1, 2, 5-7 and 13 rejected under 35 U.S.C. §103(a) as unpatentable over Nguyen	Silent – Apparently Maintained
Claims 3, 4, 9, 10, 14 and 15 rejected under 35 U.S.C. §103(a) as unpatentable over Ito et al. in view of D'Errico et al. (United States Patent Number 6,314,503)	Silent – Apparently Maintained

In addition, the Examiner stated new rejections as follows:

- rejected claims 1, 2, 5-8 and 11-13 under 35 U.S.C. §103(a) as unpatentable over Otterness (United States Patent Number 6,654,831) in view of Nguyen,
- rejected claims 3 and 4 under 35 U.S.C. §103(a) as unpatentable over Otterness in view of Nguyen and further in view of Allen (United States Patent Number 5,151,990),

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- rejected claims 9 and 14 under 35 U.S.C. §103(a) as unpatentable over Otterness in view of Nguyen and further in view of Burgess (United States Patent Number 5,796,633),
- rejected claims 10 and 15 under 35 U.S.C. §103(a) as unpatentable over Otterness in view of Nguyen and further in view of Burgess and further in view of Komachiya (United States Patent Number 6,571,314),
- rejected claims 1,2, 5-8 and 11-13 under 35 U.S.C. §103(a) as unpatentable over Ito in view of Otterness, and
- rejected claims 3, 4, 9, 10, 14 and 15 under 35 U.S.C. §103(a) as unpatentable over Ito in view of Otterness further in view of D'Errico.

Applicants respectfully traverse the rejections, have amended claims 1, 8, 13 and 14 and cancelled claims 3, 4, 9, 10 and 15 to clarify the distinctions over the prior art and request reconsideration and withdrawal of outstanding rejections of all remaining claims.

Section 103 Rejections

The Examiner rejected all claims 1-15 under §103 as unpatentable over various combinations of seven references. In particular, claims 3, 4, 9, 10, 14 and 15 include recitations pertaining to monitoring of the measured performance attribute and migrating data to adjust the performance of the storage system to adhere to the required performance attributes. Such monitoring and migration of data allows the storage system, per se, to adapt to performance requirements dynamically without requirement of host system intervention. None of the art of record, considered individually or in any combination teaches or reasonably suggests that the storage system, per se, can monitor its performance against a required goal and automatically adapt its configuration to maintain adherence to the required performance requirement.

In particular, with regard to claims 3, 4, 9, 10, 14 and 15, the Examiner relies on two different combinations to teach the claimed features including monitoring and adjusting: 1) Ito and D'Errico, and 2) Ito, Otterness and D'Errico. As regards claims 3 and

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4, the Examiner also relies on the combination of Otterness, Nguyen and Allen. As regards claims 9 and 14, the Examiner also relies on the combination of Otterness, Nguyen and Burgess to show the claimed features including monitoring. As regards claims 10 and 15, the Examiner also relies on the combination of Otterness, Nguyen, Burgess and Komachiya to show the claimed features as including monitoring and adjusting. None of these combinations teach or reasonably suggest the monitoring of a performance attribute and the automatic adjustment of the configuration to adhere to the identified performance goal.

Admittedly, Allen teaches at column 4, lines 25-49, that a network of workstations may receive error messages indicating that a performance attribute (i.e., storage capacity of a logical unit) has been or will be exceeded and further suggests that a process within the network may dynamically adjust the available storage capacity in response to such a message. However, nothing in Allen, alone or in any combination with any of the art of record, teaches or reasonably suggests that such steps would be performed within the storage system controllers (within a designated primary controller of the plurality of controllers).

Applicants have amended all independent claims 1, 8, 13 and 14 to incorporate such features clearly reciting that such monitoring and adjustment is performed within the storage system (more specifically within a controller of the system). Thus, no host intervention is required for monitoring and maintaining the desired threshold of performance in the storage system.

The essential features of claims 3, 4, 9, 10 and 15 have been incorporated in the independent claims 1, 8, 13 and 14 and thus claims 3, 4, 9, 10 and 15 have been cancelled. Dependent claims 2, 5-7 and 11-12 are allowable for at least the same reasons and also as dependent from allowable base claims.

In view of the above discussion and the amendments to independent claims, remaining claims 1, 2, 5-8 and 11-12 are maintained to be allowable over all prior art of record, considered individually or in any combination. Applicants therefore respectfully

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request reconsideration and withdrawal of the rejection of all remaining claims (1, 2, 5-8 and 11-14).

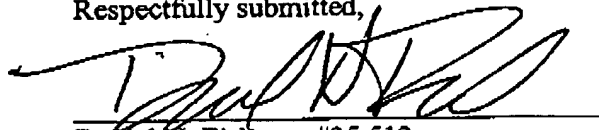
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Conclusion

Applicants have cancelled claims 3, 4, 9, 10 and 15 and incorporated their essential recitations into each independent claim 1, 8, 13 and 14. Applicants have thereby addressed all of the Examiner's outstanding rejections and have requested reconsideration and withdrawal of the outstanding rejections of remaining claims 1, 2, 5-8 and 11-14.

No additional fees are believed due. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

Respectfully submitted,



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